

have met representatives, editors and managers of the leading dailies here and have engaged to furnish them matter from Utah, with the understanding that I am working only for fair play and equal rights for the Mormons. I can see a great change among paper men since I began to coax them two years and a half ago to publish something that had a kind word for a misunderstood people. The press can do grand work where it can afford to be brave and independent, and it is the press far more than the politicians that is breaking down the prejudices against Utah through more intelligent public opinion.

I went to church twice last Sunday! In the afternoon to hear Rev. Justin D. Fulton on "Romanism." If he had used the term "Mormonism" his discourse would have been exactly of the anti-Mormon character so often heard in Salt Lake. In fact, it seemed to me that the speaker was reading *Tribune* editorials against the Mormons.

His attacks and denunciations were very coarse, but they suited the anti-Catholic rabble that heard him. A pamphlet was circulated purporting to be letters from an eminent Catholic to the Catholics, in which the most open defiance of the government was urged. I saw that it was a fraud, clearly a "Bishop West" affair, and I saw that people were deceived by it. Hence I asked the preacher who was the author of the pamphlet. He did not know, and declared he had nothing to do with it. Then I asked two of his deacons. They both denied all knowledge of it. Yet the papers advertised Fulton's sermon and added that "a pamphlet of valuable information that should be in every home will be given to all present." All this was in the same advertisement, yet neither the preacher nor his right hand men knew anything about it! Do you imagine I believed him? Not a minute. It was simply a bit of fraud, just such fraud as has been played hundreds of times against the Mormons by unscrupulous men and women.

In the evening I went to hear a Unitarian on "Emerson." There was no fraud about it, but it was the most tame and insignificant treatment of a grand subject I ever heard. The man Fulton was a mountebank. The Unitarian a dupe! Of all the hypocrites to be found in the pulpits of today the greatest is this pretended religion that is every thing and nothing. Its ministers are intelligent fellows. They are generally atheists, when judged by the Bible; they are "up" in modern science, (the younger ones) but neither young nor old has the courage of his convictions or the manhood to rise above the theft of the name "Christian" to cover their infidelity.

CHARLES ELLIS.

## SHOOTING STARS.

[London Public Opinion.]

The shooting stars are small bodies, weighing, at most, a few pounds, and consisting mainly of iron and carbon. They traverse space in swarms, and also revolve around the sun in long, elliptical courses like the comets. When these little bodies enter the earth's orbit, they are deflected toward the earth, and great numbers are seen

in a single night. Their brightness is due to the heat engendered by the energy of their motion. Their speed is enormous, viz: 42½ kilometers a second, while the speed of the earth on its orbit is only 25 kilometers a second, forward. Consequently when a shower of them approaches the earth in the direction opposite to its course, the initial speed is 72 kilometers a second; when they follow on its course they gain 16½ kilometers a second on it, their mean rate of approach being 30 to 40 kilometers a second. The friction engenders a temperature of 3,000 degrees Celsius, subject to which they burst into flame. If under these conditions their substance is not vaporized, they pass through and beyond the upper strata of our atmosphere and pursue their proper course around the sun; but as a rule they are vaporized, in which case the vapor mingles with the atmosphere, to fall later as meteoric dust. In this manner we come in contact annually with 146 milliards of shooting stars, which add considerably to the earth's substance.

Every year shooting stars present the most interesting spectacle on the night of August 10th, and frequently also on the two following nights. If the night is clear, and the observation is not disturbed by the moonlight, one may count hundreds and even thousands of falling stars during these three nights, all coming from apparently the same quarter of the heavens—the constellation of Perseus. The fact that the earth takes three days to pass through the shower of shooting stars affords a measure of the enormous space the occupy, the more so that they cross our orbit at right angles to the earth's course. Their orbit is a long one, and corresponds with that of the great comet of 1862, which reaches a distance of 7,104,000,000 kilometers from the sun, approaching it at intervals of 121 years. This immense orbit appears to be full of shooting stars. Another date equally interesting for the observation of shooting stars is November 14th. On this date they are even more numerous than on August 10th. At intervals of thirty-three years they fall on this date as thick as snowflakes. Two hundred and forty thousand are estimated to have fallen on November 14, 1833; the phenomenon repeated itself in 1866, and we look forward to its recurrence in 1899. The November shooting stars appear to come out of the constellation Leo. The course of this group corresponds to that of the comet of 1866, near the orbit of Uranus, at a distance of 2,840 kilometers from the sun, which it approaches every thirty-three years. In the year 125 A. D. this comet, under the influence of the attraction of Uranus, was deflected from its original course, and made a member of the solar system.

The two dates above mentioned are not, however, the only ones on which shooting stars in considerable numbers may be observed. Among others, November 27th may be mentioned; for on this day, in 1872, and again in 1875, at least a hundred thousand shooting stars were observed. In Rome, where I was on the latter date, the phenomena excited great interest, and even the Pope was evidently not wholly unmoved; for some days later, when I had the honor of

being received by His Holiness, his first words were: "Do you see the golden shower of Danae?" The power of fixed stars of 1872 was entirely unexpected by the astronomers. They had been much disturbed at the loss of Bela's comet, which, after its discovery, steadily made its appearance at intervals of six and a half years until 1848, in accordance with its computed course. On this occasion, while pursuing its course on the night of January 13th, it split into two pieces, diverging from each other as they pursued their several courses. Both comets were visible on their return in 1852, but they were pale and faded, and more than 2,000,000 kilometers apart. It was the last sight; from that date the Bela comet has never been seen again. It is vanished, annihilated, burst up into shooting stars. Were this not so it must have bisected the earth's orbit on November 27, 1872, and actually have come in contact with it. In its stead there appeared unexpectedly the above-mentioned shower of stars, and the conclusion was that these small bodies were the remains of the Bela comet, a conclusion unquestionably confirmed by the observations of November 27, 1885.

This, then, is one of the latest conclusions of science: Shooting stars are the fragments of shivered comets. Comets, in fact, are comparatively short-lived bodies, few of them persisting beyond a few thousand years, and the smaller ones for a much less period only, while the duration of a planet like our earth extends to millions of years. The great comets which frightened our ancestors would doubtless be found to have lost much of their brilliancy if we could see and identify them; for, during their course around the sun, they continually throw off vapor and fragments, and are thus constantly subject to diminution.

## DEATHS.

CORBITT.—In this city, June 28th, of general debility, Daniel Corbitt, in the eighty-sixth year of his age.

HICKS.—In the Second ward of this city, June 27th, James M. Hicks; aged 57 years. Born in Michigan, June 29th, 1833.

MILLER.—In Salt Lake City, June 27th, 1892, of hysteria, Ann Pearson, daughter of Ebenezer and Esther Miller, in the 23rd year of her age.

LINDSEY.—This morning, at their residence, 465 S. Fifth East street, at 7 o'clock, Alice, beloved daughter of J. R. and Alice A. Lindsey.

OLIVE.—Wednesday, June 29, 1892, of Diphtheria, at 3 a.m., Everett C., son of J. H. and Mary Olive. Funeral at the cemetery at 5 p.m.

FITZGERALD.—At 446 West Second North street, Salt Lake City, July 1st, at the residence of the late John Nebeker, Barbara Fitzgerald, of old age.

PENROSE.—On Monday, June 27th, in the Second ward, of uremia, Charles William, infant son of Ernest S. and Maria Penrose, aged three days and six hours.

McKENZIE.—At St. George, Washington Co., Utah, June 22, of disease of the kidneys, Mr. Fannie Guon Miller McKenzie; born at Bier Devonshire, England, December 6th, 1837.

OWEN.—At Marysville, June 12, 1892, the son of the late Archibald and Mary A. Bell, of Pangutich, Garfield county, Utah. Death resulted from the deceased falling off a wagon. He was born at Pangutich, Oct. 15, 1881.

BLACKBURN.—At Nephi, Juab County, Utah, June 18th, 1892, Joseph, son of Jephthah and Ann Blackburn; born at Heighington, Lincolnshire, England, November 24th, 1827; joined the Church in 1851; emigrated to Utah in 1874. He lived and died a faithful Latter-day Saint.